

Remarks

Claims 1-3, 6-10, and 13-17 are pending in the present application, claims 4, 5, 11, and 12 having been previously cancelled and claims 16 and 17 having been added by this amendment.

Applicants traverse the objections to claims 8 and 13 and the rejection of claims 6-10 and 13-15 as indefinite. Applicants respectfully submit that the amendments in the amended set of claims appended hereto address the issues raised by the examiner in this regard. In particular, claim 13 now introduces the additional recitation, with respect to claims 6 and 10, that the actual image of the light source, while being located in the eye slightly behind the pupil, is before the retina.

Applicants respectfully traverse the rejections of claims 1-3, 6-10, and 13-15 as anticipated by Gerdt, or as obvious over Gerdt standing alone or in combination with Goldman.

Claims 1-3 and 15 recite a phototherapy method wherein light rays of at least one specific wavelength are deflected by diffraction onto a specific zone of a retina of an individual.

Claims 6-10, 13, and 14 specify a device for implementing a phototherapy method including at least one off-axis diffractive optical element for each eye of an individual.

Neither Gerdt nor Goldman discloses or suggests a phototherapy method that utilizes diffraction of light rays, nor does either reference disclose or suggest an off-axis diffractive optical element at all. In particular, the applicants disagree with the examiner's characterization of the ring 70 or 80 of Gerdt as being a "diffractive element."

In the American Heritage® Dictionary of the English Language, Fourth Edition, published by Houghton-Mifflin Company, 2009, "diffraction" is defined as the "Change in the directions and intensities of a group of waves after passing by an obstacle or through an aperture whose size is approximately the same as the wavelength of the waves." (Underscore added.)

While in Gerdt the light is indeed split by the ring 180 and exits the ring through a plurality of apertures 184 all pointing towards the eye, there is no indication whatsoever that there is any diffraction, or that the light beams exiting the apertures 184 recombine to form a completely new wave front. Moreover, the sizes of the apertures 184 illustrated in Gerdt are, in fact, far too large for a diffraction phenomenon to take place. This is because the wavelengths of light are in the range between 400-800 nanometers.

Goldman does not supply the deficiencies noted with respect to Gerdt.

In the instant invention, diffractive optical elements present a number of advantages with respect to alternative optical elements, such as refractive lenses or reflective mirrors. Firstly, diffractive optical elements are flatter and less cumbersome than alternative optical elements. The device of the present invention can thus be worn far less intrusively than those of the prior art. Moreover, diffractive optical elements as used in the present invention can be superimposed on other optical elements, so that it will be possible to combine the device of the invention with, for instance, eyeglasses for far- or nearsightedness. Both of these advantages have the ultimate effect of allowing the user to undertake other activities while using the device of the invention. Unexpectedly, in this application, these advantages have been found by the inventor to outweigh the known disadvantages of diffractive optical elements, such as higher cost, color iridescence, and lower optical efficiency (resulting from the fact that part of the light is lost to higher diffraction order foci).

Independent claims 1 and 6 recite not just novel subject matter, but also methods and apparatus that would have been non-obvious to a person of ordinary skill in the art. This is because such a person would have been influenced by the known disadvantages of diffractive elements and would have been expected to avoid use of same. Instead, the present invention incorporates such elements, with the unexpected result noted above.

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As demonstrated above, the claims recite subject matter not disclosed or suggested by Gerdt, and hence such claims are not anticipated thereby. Further, neither Gerdt alone, nor Gerdt in combination with Goldman, discloses or suggests that it would be desirable or even possible to provide a phototherapy method, as recited by claims 1-3 and 15, that undertakes diffraction of light rays, or a device for implementing a phototherapy method including at least one off-axis diffractive optical element, as specified by claims 6-10, 13, and 14. To support a *prima facie* case of obviousness based on a combination of prior art elements, an examiner must establish "a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference." Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.* 72 Fed. Reg. 57,526 (Oct. 10, 2007).

Added claims 16 and 17 recite that the specific zone of the retina onto which the light rays are deflected is below the fovea. It has been found that the light receptors in the area below the fovea are particularly important in countering the disorders addressed by the present invention. For these reasons, and for the reasons presented above in connection with the remaining claims of the application, it is respectfully submitted that these claims recite patentable subject matter.

Reconsideration and allowance of the foregoing claims are respectfully requested. The examiner is encouraged to call the undersigned attorney for applicants should he feel doing so would expedite prosecution of this application.

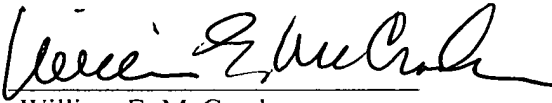
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Deposit Account Authorization

The Commissioner is hereby authorized to charge any deficiency in any amount enclosed or any additional fees which may be required during the pendency of this application under 37 CFR 1.16 or 1.17, except issue fees, to Deposit Account No. 50-1903.

Respectfully submitted,

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